ALABAMA DEPARTMENT OF ECONOMIC AND COMMUNITY AFFAIRS
AGRICULTURE ENERGY EFFICIENCY PROGRAM
SUMMARY OF PROJECTS
2005

Development of Improved Energy Efficiency and Renewable Energy Opportunities on Alabama Department of Corrections Agricultural Facilities, Alabama Department of Corrections (ADOC)
ADOC will purchase two waste oil burning furnaces and a farm scale biodiesel processor for installation at its Draper Farm operations. Waste vegetable oil (WVO) and used motor oil will be used to heat the Draper farm garage. The remaining WVO will be used to produce biodiesel that will fuel trucks and farm equipment. In addition to significant cost savings for the state, the project will provide inmates with experience and training in biodiesel production technology.

Demonstration of a Solar Energy Hot Water System for Greenhouse Heating, Alabama Cooperative Extension System
This project will compare the energy costs of heating a commercial greenhouse with a solar hot water system to the cost of heating a comparable greenhouse with an industry standard heating system. The project involves a $20,000 equipment purchase with a projected $12,000 per year energy cost savings.

Demonstration of an Anaerobic Digester for Power Production from Agricultural Waste, Alabama Department of Agriculture and Industries
This project will demonstrate the use of an anaerobic digester to produce gas and electricity from agricultural waste at a cheese production facility located in the Black Belt. The grant will pay for the engineering design for the power production phase of the system.

Demonstration of Heating Broiler Houses with Broiler Litter, Alabama Department of Agriculture and Industries
This project will demonstrate new innovative technology using unpelleted broiler litter to heat broiler houses, addressing both the rapidly rising cost of energy and the environmental consequences of the disposal of broiler litter.

Demonstration of Aerator Electrical Energy Usage Reduction at Alabama Saltwater Shrimp/Catfish Farms through Water Circulation with Solar-Powered Diffused-Air Aerators, Tuskegee University
This is an extension of a current Agriculture Energy Efficiency Program project and involves the evaluation of solar-powered aerators for energy use reduction at three shrimp/catfish farms in the Black Belt.

Energy Efficient Integrated Aquaculture-Vegetable Greenhouse Production System, Auburn University
This project will demonstrate several technologies (passive solar heating, a waste-oil water heating system, and a waste-oil fired furnace) in an integrated aquaculture-vegetable system to produce tilapia and tomatoes. Water from the fish tanks (including fish waste and fish feed

waste) will be pumped into the vegetable greenhouse where it will be used to irrigate and fertilize the tomatoes.

Improving Energy Efficiency in Alabama Broiler Housing with Closed Cell Foam Insulation, Auburn University
This project will demonstrate a new, sprayable, closed cell foam insulation as an affordable method of simultaneously tightening and insulating older curtain-sided broiler houses. The projected annual reduction in fuel costs is 35%.

Efficient Poultry House Energy Utilization: Cooking Oil Furnaces, Alabama Mountains, Rivers and Valleys Resource Conservation and Development Council
This project will demonstrate the use of waste vegetable oil heaters to heat poultry houses. Both older, poorly insulated and newer, efficient poultry houses will be used in the demonstration. Energy audits of the project houses will be conducted and results shared during on-farm demonstrations.

For additional information on the ADECA Agriculture Energy Efficiency Program or any of the projects described above, you may contact Kathy Hornsby, Agriculture Energy Program Manager at kathyh@adeca.state.al.us or 1-800-392-8098.